

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|---------------------------------|---|--------------------|--|--|
| The "Food Product" Terms | | | | |
| 3. | U.S. Patent 5,725,895, Claims 14, 15 U.S. Patent 6,177,122, Claims 6, 7, 8, 12 U.S. Patent 6,242,018, Claims 1, 2 U.S. Patent 7,303,770, Claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, 26 | Food product | "Food product" means any ingestible preparation containing the sprouts of the instant invention, which are identified and have the characteristics described in the '895 patent specification, at col. 10, l. 28 - col. 11, l. 17, or extracts or preparations made from these sprouts, which are capable of delivering Phase 2 inducers to the mammal ingesting the food product. | <p><u>Intrinsic Evidence</u></p> <p>The first heading under the "DETAILED DESCRIPTION" is entitled "Definitions." '895 patent, col. 6, l. 11 (Exh. 1-A). "In the description that follows, a number of terms are used extensively. The following definitions are provided to facilitate understanding of the invention." <i>Id.</i>, at ll. 12-14. "Food product" is one of "terms" for which an express definition is provided:</p> <p style="padding-left: 40px;">A food product is any ingestible preparation <u>containing the sprouts of the instant invention, or extracts or preparations made from these sprouts</u>, which are capable of delivering Phase 2 inducers to the mammal ingesting the food product. The food product can be freshly prepared such as salads, drinks or sandwiches containing <u>sprouts of the instant invention</u>. Alternatively, the food product containing <u>sprouts of the instant invention</u> can be dried, cooked, boiled, lyophilized or baked. Breads, teas, soups, cereals, pills and tablets, are among the vast number of different food products contemplated.</p> <p><i>Id.</i>, at ll. 26-37 (emphasis added).</p> <p>"Suitable" sprouts of the invention are identified at col. 10, l. 28 - col. 11, l. 17. <i>Id.</i></p> <p>During the prosecution of the '895 patent, the patentees distinguished the claims over the cited prior art by the following statements:</p> <p style="padding-left: 40px;">"Beecher therefore does not teach or suggest methods for the production of food products comprised of the recited</p> |
| 4. | U.S. Patent 5,968,567, Claims 9, 16, 18 | Human food product | "Human food product" means any ingestible preparation containing the sprouts of the instant invention, which are identified and have the characteristics described in the '895 patent | |

¹ For ease of reference, all references to the patent specification will be to U.S. Patent No. 5,725,895 ("the '895 patent"). All of the other patents-in-suit are continuations or divisionals that claim priority to the '895 patent and have the same specification.

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|-------|------------|---|--|
| | | | specification, at col. 10, l. 28 - col. 11, l. 17, or extracts or preparations made from these sprouts, which are capable of delivering Phase 2 inducers to the mammal ingesting the food product, wherein the mammal is a human being. | <p>cruciferous sprouts or sprout extracts.” Amendment, dated March 17, 1997, at 3 (Exh. 1-C at 38).</p> <p>“However, the ‘94056 application fails to teach the claimed methods for preparing food products comprised of the recited cruciferous sprouts or sprout extracts.” <i>Id.</i> (emphasis in original).</p> <p>“The ‘94056 application does <u>not</u> describe a method for preparing broccoli sprouts.” <i>Id.</i>, at 4 (emphasis in original) (Exh. 1-C at 39).</p> <p>“The prior art does not teach or suggest methods for production of food products comprised of the recited cruciferous sprouts or sprout extracts.” <i>Id.</i>, at 8 (Exh. 1-C at 43).</p> <p>In support of those arguments, patentees submitted a declaration of one of the inventors, Dr. Paul Talalay. Dr. Talalay agreed that a food product required sprouts:</p> <p>“None of the prior art references cited by the examiner in the Official Action, either alone, or in combination, teach or suggest the claimed methods for preparing food products comprised of the designated cruciferous sprouts, or extracts made from these sprouts.” Declaration of Paul Talalay, dated March 13, 1997, at ¶5 (Exh. 1-D at 12).</p> <p>“The methods of the application also provide food products comprised of certain cruciferous sprouts and sprout extracts...” <i>Id.</i>, at ¶11 (Exh. 1-D at 15).</p> <p>The examiner clearly understood that “food product” must include sprouts because, in her reason for allowing the application that became the ‘895 patent, she stated:</p> <p>The following is an examiner’s statement of reasons for allowance: a method of preparing a food product wherein</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|-------|------------|--------------------------|--|
| | | | | <p>cruciferous sprouts, with the exception of cabbage, cress, mustard, and radish sprouts are harvested prior to the 2-leaf stage is not taught nor fairly suggested by the prior art or any combination thereof.</p> <p>'895 patent Notice of Allowability, dated August 14, 1997, at 3 (Exh. 1-D at 32).</p> <p>Similar limiting arguments were made during the prosecution of the '567 patent. The examiner summarized an interview with the patentees by stating "[a]pplicants' method is directed to sprouts containing high Phase 2 enzyme-inducing potential and non-toxic levels of indole glucosinolates and their breakdown products." Interview Summary, dated June 19, 1998 (Exh. 2-D at 18).</p> <p>In an Amendment and Request for Reconsideration, dated June 30, 1998, the patentees again distinguished their claimed "food products" over the prior art because the claimed "food products" contained sprouts or sprout extracts. They supported their assertion in part with the following statements:</p> <p style="padding-left: 40px;">"None of the prior art references cited by the examiner in the Official Action, either alone, or in combination, teach or suggest the claimed methods for preparing food products comprised of the designated cruciferous sprouts, or extracts made from these sprouts." Amendment, dated June 30, 1998, at 3 (Exh. 2-D at 28).</p> <p style="padding-left: 40px;">"Mr. Meyerowitz does not teach that the claimed sprouts are well known. The teaching of Meyerowitz does not even indicate that the claimed sprouts have been made." <i>Id.</i></p> <p style="padding-left: 40px;">"This important error demonstrates that Mr. Meyerowitz was simply speculating about the anti-cancer potential of these vegetables and could not have known that the food product comprised of cruciferous sprouts produced by the claimed method has advantageous properties revealed by the inventors</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|-------|------------|--------------------------|--|
| | | | | <p>of the instant application.” <i>Id.</i></p> <p>“Beecher therefore does not teach or suggest methods for the production of food products comprised of the recited cruciferous sprouts or sprout extracts.” <i>Id.</i>, at 4 (Exh. 2-D at 29).</p> <p>“Likewise, the two Zhang articles and the Cho patent fail to teach or suggest methods for the production of food products comprised of the recited cruciferous sprouts or sprout extracts” <i>Id.</i></p> <p>“However, the cited prior art fails to teach or suggest a method of making a human food product comprising the steps of identifying cruciferous seeds...; germinating these seeds; and harvesting sprouts...” <i>Id.</i>, at 4-5 (Exh. 2-D at 29-30).</p> <p>“More specifically, the claimed methods of the instant application provide food products comprised of certain cruciferous sprouts, and sprout extracts...As a consequence, a significant health benefit can be realized through ingestion of small quantities of cruciferous sprouts, or sprout extracts, prepared according to the claimed methods.” <i>Id.</i>, at 5 (Exh. 2-D at 30).</p> <p>“Another unrecognized and unexpected benefit of the claimed methods is to provide food products comprised of certain cruciferous sprouts and sprout extracts...” <i>Id.</i>, at 7 (Exh. 2-D at 32).</p> <p>“The prior art does not teach or suggest methods for production of human food products comprised of the recited cruciferous sprouts or sprout extracts...The claimed methods of the instant application provide food products comprised of certain cruciferous sprouts, and sprout extracts...” <i>Id.</i>, at 8 (Exh. 2-D at 33).</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|-------|------------|--------------------------|---|
| | | | | <p>In support of these arguments, Dr. Talalay provided another declaration in which he stated:</p> <p>“None of the prior art references cited by the examiner in the Official Action, either alone, or in combination, teach or suggest the claimed methods for preparing food products comprised of the designated cruciferous sprouts, or extracts made from these sprouts.” Declaration of Paul Talalay, dated June 18, 1998, at ¶5 (Exh. 2-E at 29).</p> <p>The claimed methods of the application provide food products that not only contain unexpectedly <u>high</u> levels of anticarcinogenic Phase 2 inducer activity, but also contain unexpectedly <u>low</u> levels of potentially carcinogenic Phase 1 enzyme inducer activity. The prior art references relied on by the examiner do not teach or suggest these unexpected attributes of the human food product made by the claimed methods. The sprouts and their extracts are therefore both qualitatively and quantitatively radically different in their content of enzyme inducer activities compared to mature, market stage vegetables. <i>Id.</i>, ¶¶7 (Exh. 2-E at 30).</p> <p>“The methods of the application also provide food products comprised of certain cruciferous sprouts and sprout extracts...” <i>Id.</i>, at ¶12 (Exh. 2-E at 33).</p> <p>In the prosecution of related patent, U.S. Patent No. 5,968,505, which BPP does not allege Caudill is infringing and which claims are not related to food products, the patentees still argued that the term “food product” must include sprouts or sprout extracts:</p> <p>“More specifically, the claimed methods of the instant application provide food products comprised of certain cruciferous sprouts, and sprout extracts...” Amendment, dated January 25, 1999, at 4 (Exh. 6-D at CSC017646).</p> <p>“Another unrecognized and unexpected benefit of the claimed</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|--------------------------------------|---------------------------|--|--|
| | | | | <p>methods is to provide food products comprised of certain cruciferous sprouts and sprout extracts..." <i>Id.</i>, at 6-7 (Exh. 6-D at CSC017648-49).</p> <p>"The claimed method of the instant application provides food products comprised of certain cruciferous sprouts, and sprout extracts,..." <i>Id.</i>, at 8 (Exh. 6-D at CSC017650).</p> <p>This amendment referenced yet another declaration by Dr. Talalay in which he states again that "[t]he methods of the application also provide food products comprised of certain cruciferous sprouts and sprout extracts..." Declaration dated February 18, 1999, at ¶12 (Exh. 6-D at CSC017656).</p> <p>In an interview with the Examiner, only "broccoli sprouts" were discussed. Examiner Interview Summary Record, dated February 17, 1999 (Exh. 6-E at CSC017666).</p> <p>Nothing was said by the patentees during the prosecutions of either the '122 patent, the '018 patent, or the '770 patent that would contradict the express definition provided in the specification for the term "food product" or its related term "human food product", or the clear affirmation of that definition in the preceding prosecutions of all of the related patents.</p> <p>During prosecution the '770 patent, issued claim 10 was amended from "a method of extracting..." to a method of making a food product comprising extracting..." Amendment dated Oct. 22, 2002 (Exh. 5-F at 41).</p> |
| | | | | |
| 5. | U.S. Patent 5,725,895, Claims 14, 15 | Cruciferous; Crucifer; | "Crucifer" or "cruciferous" means of or related to the sprouts of the instant invention, which are identified and have the | <p><u>Intrinsic Evidence</u></p> <p>"Suitable" sprouts of the invention are identified at col. 10, l. 28 - col. 11, l. 17 (Exh. 1-A).</p> <p>"The cruciferous sprouts of [the] instant invention have at least</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|---|--------------|---|---|
| | <p>U.S. Patent 5,968,567, Claims 9, 16, 18</p> <p>U.S. Patent 6,177,122, Claims 1, 2, 5, 6, 7, 8, 9, 10, 12</p> <p>U.S. Patent 6,242,018, Claims 1, 2</p> <p>U.S. Patent 7,303,770, Claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26</p> | | <p>characteristics described in the '895 patent specification, at col. 10, l. 28 - col. 11, l. 17.</p> | <p>200,000 units per gram fresh weight of Phase 2 enzyme-inducing potential at 3 days following incubation under conditions in which cruciferous seeds germinate and grow." <i>Id.</i>, col. 6, l. 65 – col. 7, l. 1; col. 7, l. 49-53.</p> <p>"Suitable sprouts will have at least 200,000 units per gram of fresh weight of Phase 2 enzyme-inducing potential following 3-days incubation of seeds under conditions in which the seeds germinate and grow." <i>Id.</i>, col. 10, l. 66 – col. 11, l. 2.</p> <p>The "Definitions" section of the specification contains the following definition: "The cruciferous sprouts of instant invention have at least 200,000 units per gram fresh weight of Phase 2 enzyme-inducing potential at 3-days following incubation under conditions in which cruciferous seeds germinate and grow." <i>Id.</i>, col. 7, ll. 49-52.</p> <p>According to example 4, "[s]prouts of over 40 different members of the Cruciferae have now been bioassayed and broccoli sprouts remain the most Phase 2 enzyme-inducer rich plants tested." <i>Id.</i>, col. 14, ll. 15-17. After this sampling of known cultivars, the patent applicants concluded in this example that the five specific broccoli cultivars, when tested as sprouts, had "significantly higher" inducer activity. <i>Id.</i>, Table 2, and col. 46-49.</p> <p>According to example 5, "high levels of phase 2 enzyme-inducer potential" were observed. The materials in this example exhibited inducer potentials of 217,000 units/g fresh weight and up. <i>Id.</i>, See, Table 3, and col. 15, ll. 11-45.</p> |
| 6. | U.S. Patent 7,303,770, Claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26 | Plant tissue | "Plant tissue" is the fresh, soft, fragile plant parts, particularly leaves and stems, capable of being "wounded" by rough handling and so does not include seed. | <p><u>Intrinsic Evidence</u></p> <p>"The preponderance of glucosinolates and the rapidity with which, upon wounding of cruciferous plant tissue, glucosinolates are converted to isothiocyanates, led to the development of an improved extraction procedure." '895 patent, col. 8, ll. 48-51 (Exh. 1-A).</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|--|---|---|---|--|
| 7. | U.S. Patent 5,725,895, Claim 14, 15 U.S. Patent 6,242,018, Claim 2 | Non-toxic levels of indole glucosinolates and their breakdown products and goitrogenic hydroxybutenyl glucosinolates | The patent does not specify what a non-toxic level of these compounds is and so the term is indefinite. | <u>Intrinsic Evidence</u> The patent specification discloses the need for “non-toxic levels of indole glucosinolates and their breakdown products and goitrogenic hydroxybutenyl glucosinolates.” <i>See, e.g.</i> , Exh. 1-A, col. 2, ll. 47-49; col. 3, ll. 28-30; etc. It further describes products that are “substantially free of indole glucosinolates and their breakdown products.” <i>Id.</i> , col. 11, ll. 10-13. There is no other quantitative information about what is a “non-toxic level” of these compounds |
| Claim Terms Related to the Extraction Process | | | | |
| 8. | U.S. Patent 5,725,895, Claim 15 | Extracting glucosinolates and isothiocyanates with a non-toxic solvent and isothiocyanates from cruciferous seeds, sprouts, plants or plant parts | <p>“Extracting ... from” means the process of removing glucosinolates and isothiocyanates by a solvent from solid material, <i>i.e.</i>, seeds, sprouts, etc.</p> <p>This claim is ambiguous and capable of two constructions. As such it is indefinite.</p> <p>It can be construed to mean removing both glucosinolates and isothiocyanates from cruciferous seeds, sprouts, plants or plant parts (as those are defined above) using a non-toxic liquid</p> | <p><u>Intrinsic Evidence</u></p> <p>“...both glucosinolates and isothiocyanates are efficiently extracted into the organic solvent mixture.” Exh. 1-A, col. 9, ll. 1-2.</p> <p>Non-toxic solvent extracts according to the invention are useful as healthful infusions or soups. Non-toxic or easily removable solvents useful for extraction according to the present invention include water, liquid carbon dioxide or ethanol, among others. The sprouts can be extracted with cold, warm, or preferably hot or boiling water which denature or inactivate myrosinase. The residue of the sprouts, post-extraction, may or may not be removed from the extract...The extract can be ingested directly, or can be further treated. It can, for example, be evaporated to yield a dried extracted product. It can be cooled, frozen, or freeze-dried.</p> <p>‘895 patent specification, col. 11, ll. 18-31 (Exh 1-A). Similarly, the recovery of the “extract” is described at <i>Id.</i>, col. 4, ll. 43-45. Each of the 12 examples provided in the specification describe the use of</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|--|---|--|---|
| | | | <p>solvent; and removing isothiocyanates from cruciferous seeds, sprouts, plants or plant parts (as those are defined above) using any liquid solvent.</p> <p>Alternatively, it can be construed to mean removing both glucosinolates and isothiocyanates from cruciferous seeds, sprouts, plants or plant parts (as those are defined above) using a liquid mixture of non-toxic solvent and isothiocyanates.</p> | <p>various solvents to “extract” the desired “extract” that contains glucosinolates and isothiocyanates from cruciferous sprouts. <i>Id.</i>, col. 12, l. 22 – col. 21, l. 35.</p> <p>Example 1 describes the process of “extracting”:</p> <p style="padding-left: 40px;">Sprouts were harvested following 3-days of incubation and immediately plunged into 10 volumes of a mixture of equal volumes of DMF/CAN/DMSO at -50°C.</p> <p>The solvent mixture was homogenized and centrifuged to remove the plant particulates. The inducer potential of the solvent was determined. <i>Id.</i>, col. 12, ll. 25-61.</p> <p>Example 5 also describes “extracting”: 3 day old broccoli sprouts were plunged into boiling water to “extract glucosinolates and isothiocyanates from the plant tissue.” “The sprouts were then either strained from the boiled infusion [tea, soup] or homogenized in it, and the residue then removed by filtration or centrifugation.” “Inducer potential of plant extracts, prepared as above, was determined...” <i>Id.</i>, col. 14, l. 62 – col. 15, l. 55.</p> |
| 9. | <p>U.S. Patent 5,968,567, Claims 9, 16, 18</p> <p>U.S. Patent 7,303,770, Claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26</p> | Extracting ... from | <p>“Extracting ... from” means the process of removing glucosinolates and isothiocyanates by a solvent from solid material, <i>i.e.</i>, the cruciferous seeds, sprouts, or combination (as set forth in the claims and as those terms are defined above).</p> | <p>Both glucosinolates <u>and</u> isothiocyanates must be extracted. In a related application that issued as U.S. Patent No. 7,303,770, applicants attempted to amend the claims from “glucosinolates <u>and</u> isothiocyanates” to “glucosinolates <u>or</u> isothiocyanates.” That request was rejected by the examiner because it would introduce new matter. See ‘770 patent prosecution, Amendment, mailed October 9, 2007 (Exh. 5-K at 21-26), and Response, mailed October 22, 2007 (Exh. 5-K at 31-32). Thus, “glucosinolates and isothiocyanates” requires the presence of both types of compounds. The examiner also required the patentees to add “isothiocyanates” to issued claim 10. Reply, dated Jan. 20, 2004, at 5 (Exh. 5-G at 37) .</p> |
| 10. | U.S. Patent 5,968,567, Claims 9, 16, 18 | Removing the extracted sprouts, seeds, or a combination | <p>“Removing the extracted sprouts, seeds, or a combination thereof from said solvent” means that the</p> | <p>During prosecution of ‘770 patent application, the patentees explained the extracting step by distinguishing it from a prior art extraction</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|---|---|---|---|
| | | thereof from said solvent | sprouts, seeds or combination thereof from which the glucosinolates and isothiocyanates have been removed by a solvent are then themselves taken out of the solvent. | process: The extracting step involved contacting said plant tissue with a non-toxic solvent at a temperature sufficient to inactivate myrosinase enzyme activity...The two methods are different from one another because while the method of the present invention involves recovering glucosinolates and isothiocyanates and adding the recovered materials to food, the method of [prior art] Jones et al. involves removing glucosinolates and other materials from oilseeds in order to recover a nutritious protein concentrate that is free of these materials. |
| 11. | U.S. Patent 5,968,567, Claims 9, 16, 18 | Recovering the extracted glucosinolates and isothiocyanates | "Recovering the extracted glucosinolates and isothiocyanates" means obtaining the glucosinolates and isothiocyanates that have been removed from the seeds, sprouts, or combination thereof by a solvent from the solvent by further processing such as evaporation, cooling, freezing, or freeze-drying. | Amendment and Reply, dated October 22, 2002 (Exh. 5-F at 41). The patentees continued to emphasize that their claimed extracting was different than the prior art extracting by pointing to the fact that the prior art taught removing (or extracting) an undesired material while they claimed a method of removing (or extracting) the desired material – glucosinolates and isothiocyanates. <i>See</i> , Amendment and Reply, dated July 16, 2003. |
| 12. | U.S. Patent 5,968,567, Claims 16, 18 | Drying said extracted glucosinolates and isothiocyanates | "Drying said extracted glucosinolates and isothiocyanates" means obtaining the glucosinolates and isothiocyanates that have been removed from the sprouts, seeds, or a combination thereof by a solvent from the solvent by evaporation of the solvent. | As discussed above, Jones et al. explicitly teaches removing glucosinolates from food because of their deleterious properties, such as decreased nutritive value and unattractive flavor. Because Jones et al. teaches away from adding glucosinolates to food, the prior art would <u>not</u> have suggested to those of ordinary skill in the art that they should modify Jones et al. method by adding the isolated glucosinolates to food products... <i>Id.</i> at 4 (Exh. 5-G at 18). |
| 13. | U.S. Patent 5,968,567, | An extract prepared according to the | "An extract prepared according to the method of any one of claims 9, 16 or | <i>See, also</i> , Amendment and Reply, dated Nov. 14, 2005, at 6-7: "In contrast, [issued claim 10] is directed to a method of making a food product that involves adding extracted glucosinolates and |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|--|--|---|---|
| | Claim 18 | method of any one of claims 9, 16 or 17. | 17" means material removed from a solid by use of a solvent, wherein the extract can contain the removed material and the solvent, wherein the extract is prepared according to | isothiocyanates to food." (Exh. 5-I at 34-35). <u>Extrinsic Evidence</u> Expert Report of Gregory R. Ziegler, Ph.D., dated March 10, 2008 (Exh. 8). Rebuttal Report of Gregory R. Ziegler, Ph.D., dated March 20, 2008 (Exh 10-A). |
| 14. | U.S. Patent 6,177,122, Claims 1, 2, 5, 6, 7, 8 | A non-toxic solvent extract of crucifer seed or cruciferous sprout | "A non-toxic solvent extract of crucifer seed or cruciferous sprout" means material removed from a crucifer seed or cruciferous sprout by use of a non-toxic solvent, wherein the extract can contain the removed material and the solvent. | A process in which a liquid solvent is used to remove a desired compound (or compounds) from insoluble material is termed leaching or solid extraction. In such a process, the extract is the material removed from the insoluble solids by the solvent, and may or may not be additionally separated, <i>i.e.</i> , recovered, from the solvent. The material from which the extract is obtained is referred to as the raffinate, spent solids, residue or pulp. <i>Unit Operations of Chemical Engineering</i> , 4 th Ed., W.L. McCabe, J.C. Smith and P. Harriott, McGraw-Hill Book Co., New York (1985), at 533 (Exh. BB at B002018). |
| 15. | U.S. Patent 6,177,122, Claim 2 | To extract said seed or sprout | "To extract said seed or sprout" means to remove a material from seed or sprout by use of a solvent, wherein the solvent dissolves the material out of the seed or sprout. | The same definitions are employed in the related process of liquid-liquid extraction: In all such operations, the solution which is to be extracted is called the feed, and the liquid with which it is contacted is the solvent. The solvent-rich product of the operation is called the extract, and the residual liquid from which the solvent has been removed is the raffinate (Treybal, 1980)(Exh. CC at CSC023326). |
| 16. | U.S. Patent 6,177,122, Claim 5 | Said extract is dried, cooled, frozen, or freeze-dried | "Said extract is dried, cooled, frozen, or freeze-dried" means material removed from a crucifer seed or cruciferous sprout by use of a non-toxic solvent, wherein the extract, which can contain the removed material and the | <i>Principles and Modern Applications of Mass Transfer Operations</i> , Jaime Benitez, Wiley-Interscience, John Wiley & Sons, Inc., New York (2002), at 385 (Exh. DD at B002053). When using an organic solvent to extract a compound out of water, most or all of that solute will pass from the aqueous |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|--|--|---|---|
| | | | solvent, is dried, cooled, frozen, or freeze-dried. | <p>phase to the organic liquid phase. We say that this solute is extracted. If the other solute prefers the aqueous phase to the organic, it will not be extracted.</p> <p><i>Quantitative Analytical Chemistry</i>, 2nd ed., J.S. Fritz and G.H. Schenk, Jr., Allyn and Bacon, Inc., Boston (1969), at 362 (Exh. 10-B at CSC019409).</p> <p>Solid-liquid extraction is defined as follows: “an example of such a separation operation in which a desired component, the <i>solute</i>, in a solid phase is separated by contacting the solid with a liquid, the <i>solvent</i>, in which the desired component is soluble.” (emphasis in original)</p> <p><i>Food Engineering Operations</i>, 3rd ed. J.G. Brennan, J.R. Butters, N.D. Cowell and A.E.V. Lilley, Elsevier Applied Science, London (1990), at 199 (Exh. 10-B at CSC019406).</p> <p>“Extraction may refer to a solute being removed from either a solid or a liquid.” Examples given in this text include: caffeine extracted from coffee beans, oils extracted from soybeans, vanilla extracted from vanilla beans, and enzymes extracted from cell homogenates.</p> <p>At any given temperature and pressure there is a phase equilibrium condition that relates the concentration of the solute in the solvent or extract phase to the concentration of the solute in the solid or raffinate phase.</p> <p>“Extraction System Design,” L. Erickson, <i>Encyclopedia of Agricultural, Food and Biological Engineering</i>, D.R. Heldman, ed., Marcel Dekker, New York (2003), at 290 (Exh. 10-B at CSC019412).</p> <p>Leaching or solid-liquid extraction “is the transfer of solutes from a solid, usually in particulate form, to contiguous liquid, the extract.”</p> <p>“Leaching – Organic Materials,” H.G. Schwartzber, Ch. 10, <i>Handbook of Separation Process Technology</i>, R.W. Rousseau, ed., John Wiley & Sons, New York (1987), at 540 (Exh. 10-B at</p> |
| 17. | U.S. Patent 6,177,122, Claims 6, 7, 8 | The extract | “The extract” means “material removed from a crucifer seed or cruciferous sprout by use of a non-toxic solvent, wherein the extract can contain the removed material and the solvent.” | |
| 18. | U.S. Patent 6,177,122, Claims 9, 10, 12 | Extract of said seed | “Extract of said seed” means “material removed from a seed by use of a non-toxic solvent, wherein the extract can contain the removed material and the solvent.” | |
| 19. | U.S. Patent 7,303,770, Claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26 | Recovering said glucosinolates and isothiocyanates | “Recovering said glucosinolates and isothiocyanates” means obtaining the glucosinolates and isothiocyanates, which have been removed from the seeds or sprouts, from the solvent in which they reside by further processing of the extract, such as evaporation, cooling, freezing, or freeze-drying. | |
| 1. | U.S. Patent 5,968,567, Claim 18 | Extract | By focusing on a single word, Plaintiffs are ignoring the context of the balance of each claim. | |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|--|------------|--|---|
| | U.S. Patent 6,177,122, Claims 1, 2, 5, 6, 7, 8, 9, 10, 12 | | <p>"Extract" in the context of claim 18 of the '567 patent means "material removed from a solid by use of a solvent, wherein the extract can contain the removed material and the solvent," wherein the extract is prepared according to the method of any one of claims 9, 16 or 17.</p> <p>In the context of claims 1, 2, 5 - 8 of the '122 patent, "extract" means "material removed from a crucifer seed or cruciferous sprout by use of a non-toxic solvent, wherein the extract can contain the removed material and the solvent."</p> <p>In the context of claims 9, 10, and 12 of the '122 patent, "extract" means "material removed from a crucifer seed or cruciferous sprout by use of a solvent, wherein the extract can contain the removed</p> | <p>CSC019403).</p> <p>A primary reference for chemical engineers uses the word "extract" as that portion of the material that is soluble in the solvent and removed from the solvent from the insoluble solids:</p> <p style="padding-left: 40px;">The mechanism of leaching may involve simple physical solution or dissolution made possible by chemical reaction. The rate of transport of solvent into the mass to be leached, or of soluble fraction into the solvent, or of extract solution out of the insoluble material, or some combination of these rates may be significant.</p> <p>"Liquid-Solid Operations and Equipment," Section 18-55, Leaching, <i>Perry's Chemical Engineers' Handbook</i>, 7th ed., R.H. Perry & C.H. Chilton, eds., McGraw Hill Publishing Co., New York (1997), at 18-55 (Exh. 10-E at CSC019467).</p> <p>Leaching is the preferential solution of one or more constituents of a solid mixture by contact with a liquid solvent...The term extraction is also widely used to describe this operation in particular...</p> <p>Many naturally occurring organic products are separated from their original structure by leaching. For example, sugar is leached from sugar beets with hot water, vegetable oils are recovered from seeds such as soybeans and cottonseed by leaching with organic solvents, tannin is dissolved out of various tree barks by leaching with water, and many pharmaceutical products are similarly recovered from plant roots and leaves. Tea and coffee are prepared both domestically and industrially by leaching operations.</p> <p style="text-align: center;">***</p> <p>Liquid extraction, sometimes called solvent extraction, is the separation of the constituents of a liquid solution by contact</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|------------------------------|------------|----------------------------|--|
| | | | material and the solvent.” | |
| 2. | Row Intentionally Left Blank | | | <p>with another insoluble liquid...In all such operations, the solution which is to be extracted is called the <i>feed</i>, and the liquid with which the feed is contacted is the <i>solvent</i>. The solvent-rich product of the operation is called the <i>extract</i>, and the residual liquid from which solute has been removed is the <i>raffinate</i>. (emphasis in original)</p> <p>Robert E. Treybal, <i>Mass-Transfer Operations</i>, 3rd ed., McGraw-Hill Book Company, New York (1980), at 477, 717-719 (Exh. CC at CSC023323-26).</p> <p>An article published by Caudill's expert at about the time of the filing of the '895 patent application describes extraction of free fatty acids, off-odors or flavors from edible fats and oils. Carbon dioxide is the solvent, the solvent plus free fatty acids, off-odors and flavors are described as the extract, and the cleansed edible fats and oils are referred to as the raffinate. The free fatty acids in the extract are then "recovered".</p> <p>Ziegler, G.R. and Liaw, Y.-J. 1993. Deodorization and deacidification of edible oils using dense carbon dioxide. <i>J. Am. Oil. Chem. Soc.</i> 70(1):947-953 (Exh. EE).</p> <p>Two patents on which Plaintiff's expert is identified as an inventor describe extracting sugars from citrus solids using hot water. The water/sugar mixture is described as an "extract". After this process is completed, the citrus solids are referred to as "extracted shard residues." Particular compounds are described as being further "recovered" from the water/sugar extract.</p> <p>U.S. Patent No. 4,488,912, (Exh. FF), entitled "Preparation of High Fructose Syrups from Citrus Residues," issued to Robert A. Milch, Patricia Guerry-Kopecko, Carol Koeble-Smith, and Edward M. Sybert, on December 18, 1984; and U.S. Patent No. 4,547,226, (Exh. GG), entitled "Preparation of High Fructose Syrups from Citrus Residues," issued to Robert A. Milch, Patricia Guerry-Kopecko, Carol</p> |

Exhibit AA
Caudill's Claim Construction Chart

| Ref. No. | Claim | Claim Term | Defendant's Construction | References from the Patent Specification and Prosecution History, Extrinsic Evidence ¹ |
|----------|--|--|---|--|
| | | | | Koeble-Smith, and Edward M. Sybert, on October 15, 1985. |
| 20. | U.S. Patent 7,303,770, Claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26 | At a temperature sufficient to inactivate myrosinase enzyme activity | "At a temperature sufficient to inactivate myrosinase enzyme activity" means at a temperature of at least hot or boiling water. | <u>Intrinsic Evidence</u> The sprouts can be extracted with cold, warm, or preferably hot or boiling water which denature or inactivate myrosinase. Col. 11, ll. 22-24 (Exh 1-A). |
| 21. | U.S. Patent 7,303,770, Claim 21 | Homogenizing said plant tissue with said non-toxic solvent | "Homogenizing said plant tissue with said non-toxic solvent" means grinding the plant tissue into such small pieces that it is dispersed evenly in the solvent. The plant sample must be completely homogenized, which is not explained in the patent specification and so is indefinite. | <u>Intrinsic Evidence</u> Homogenizing was accomplished either by manually grinding the samples in a glass-on-glass homogenizer in the presence of a small amount of the total solvent used, then gradually adding more solvent or homogenizing the sample in 10 volumes of solvent using a Brinkman Polytron Homogenizer for 1 min at half-maximum power. Col. 12, ll. 44-49 (Exh 1-A). The improved procedure is both simple and efficient, requiring only that the plant sample be completely homogenized in solvent. Col. 8, ll. 58-60 (<i>Id.</i>). |